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Mineral Industry Surveys

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LEAD IN DECEMBER 1999

Domestic mine production, based upon the net quantity of lead recovered in the smelting of concentrate, decreased by 7% in November compared with production in October. Data on mine production in December were not available at the time of publication. Secondary refinery production increased by 2% in December, and was up by about 3% compared with production in December 1998. Reported consumption was down by 5% in December compared with the previous month.

According to *Platt's Metals Week* published quotations, the average North American producer price and the average London Metal Exchange (LME) cash price (U.S. dollars) were marginally higher in December, increasing by only 0.02% and 0.16%, respectively.

In North America, the lead supply appeared to be adequate at yearend 1999 as mild temperatures continued to slow the demand for replacement automotive batteries. Battery manufacturers were believed to be keeping lead stocks at a low level, deferring the demand for refined lead until more seasonable winter temperatures arrived. In Europe, the supply of lead was in significant surplus, with LME stocks growing by about 68,000 tons in 1999. Much of the LME stock increase occurred at its warehouse in Singapore. An industry analyst estimated that the overall lead surplus likely ranged between 80,000 and 110,000 tons (CRU International Ltd., 1999).

National Defense Stockpile cash disposal (sale) of lead in December was 840 metric tons (926 short tons). Sale of lead to date in fiscal year 2000 (October through December 1999) was 8,516 metric tons (9,387 short tons).

Canada's Grayd Resources Corp. recently reported the discovery of a possible new zone of massive sulfides at its Dry Creek property in Alaska's Bonnifield Mining District. The new zone is located to the west of the Fosters zone where results of drilling in 1999 revealed mineralization containing up to 5.3% zinc and 2.0% lead. Preliminary drilling results at the new zone showed the intersection of massive sulfides averaging 7.9% zinc and 4.0% lead (Mining Record, 1999).

EuroZinc Mining Corp., Vancouver, Canada, has released new resource estimates for its Aljustrel zinc-lead mining project in Portugal, as part of a final feasibility study. According to data derived from extensive diamond drilling and underground channel sampling, the combined Feitas and Moinho deposits have been calculated to contain about 141 million tons of mineralization at a grade of 2.79% zinc and 0.97% lead. EuroZinc hopes to begin mining in 2000 at Feitas, where most of the recent drilling has been focused. Aljustrel was operated in the early 1990's by a Portuguese State-owned mining company but inefficient mining and milling methods, combined with low metal prices, forced its closure. After EuroZinc's final feasibility study is completed and project financing arranged, EuroZinc will have acquired a 75% interest in the Aljustrel project from the State-owned mining company (Northern Miner, 1999).

Anglo American plc reported that the first concentrates from the Lisheen zinc-lead mine in County Tipperary, Ireland, had been shipped in mid December. Anglo American's subsidiary, Anglo Base Metals Ltd., operates the mine in a joint venture with Ivernia West plc. The Lisheen Mine has a capacity of 330,000 tons per year of zinc concentrate and 40,000 tons per year of lead concentrate. Production from Lisheen is allocated 70% to sales contracts and 30% for sale on the spot market (Mining Journal, 1999b).

High Marsh Holdings, an exploration company based in the United Kingdom, has been awarded an additional three exploration licenses in northern Tunisia. The company had optioned five other licenses it had acquired in this region to Canada's Aurora Gold Corp. in July 1999. All of the licensed properties are located within or near the Zone des Domes metallogenic belt in Tunisia. The geology that is characteristic of this belt reportedly has been host to nearly all past zinc-lead producers in Tunisia, and currently includes Breakwater Resources Ltd's Bougrine zinc-lead mine. One of the three new licenses awarded to High Marsh is contiguous with the Fez Ledoun zinc-lead mine. According to a High Marsh spokesperson, this particular license will be the subject of a joint venture with Vancouver-based Consolidated Global Minerals Ltd. (Mining Journal,1999a).

According to a report given by representatives of the Indian Bureau of Mines, the gap between supply and demand for lead in India has been increasing as a result of the current ban on imports of lead scrap. Consequently, the Government reportedly is giving serious consideration to lifting the ban. Additional lead capacity that might help to balance supply and demand is not expected in the near future. Therefore, a further increase in imports of lead is anticipated if the ban is not lifted. In a related action, the Indian Government is instituting new legislation that will require battery sellers to collect a spent lead-acid battery for each new battery that is sold. Final clearance of this legislation has been accorded by the Ministry of Law, and the Government is expected to issue a notification of the law in the near future. The new law places the responsibility for collecting spent batteries on battery producers, importers, assemblers, and reconditioners. They are expected to collect 75% of the batteries sold by them in the first year following commencement of the rules and 100% of the batteries sold in the second year (Metal Bulletin, 1999).

References Cited

CRU International Ltd., 1999, Market commentary: CRU Monitor—Lead, December, p. 2, 3.

Metal Bulletin, 1999, India may lift lead import ban: Metal Bulletin, no. 8436, December 20, p. 12.

Mining Journal, 1999a, Exploration licences awarded in Tunisia: Mining Journal, v. 333, no. 8562, December 17, p. 481.

———1999b, Lisheen ships first concentrate: Mining Journal, v. 333, no. 8562, December 17, p. 483.

Mining Record, 1999, Discovery of new zone on the Dry Creek project: Mining Record, v. 110, December, p. 8.

Northern Miner, 1999, EuroZinc boosts resource: Northern Miner, v. 85, no. 43, December 20-26, p. 1.

TABLE 1
SALIENT LEAD STATISTICS IN THE UNITED STATES 1/

(Metric tons)

	1998		1999		
	Year total	January - December	November	December	January - December
Production:					
Mine (recoverable)	481,000	449,000	37,800	NA	469,000 2/
Primary refinery	337,000	NA	NA	NA	NA
Secondary refinery:					
Reported by smelters/refineries	1,100,000	1,080,000	89,300	91,000	1,050,000
Estimated	--	18,400	902	919	14,300
Recovered from copper-base scrap e/	16,800	15,000	1,250	1,250	15,000
Total secondary	1,120,000	1,110,000	91,400	93,100	1,080,000
Stocks, end of period:					
Primary refineries	10,900 3/	XX	NA	NA	XX
Secondary smelters and consumers	77,300 3/	XX	66,100 r/	69,900	XX
Imports for consumption:					
Ore and concentrates (lead content)	32,700	32,700	--	NA	9,430 2/
Refined metal	267,000	267,000	30,300	NA	277,000 2/
Consumption:					
Reported	1,630,000	1,510,000 r/	133,000	126,000	1,580,000
Undistributed e/	--	46,600 r/	7,020 r/	6,650	83,000
Total	1,630,000	1,550,000	140,000	133,000	1,660,000
Exports (lead content):					
Ore and concentrates	72,400	72,400	2,520	NA	91,200 2/
Bullion	51,600	51,600	10,500	NA	60,500 2/
Wrought and unwrought lead	39,600	39,600	3,230	NA	35,500 2/
Ash and residues	9,030	9,030	101	NA	1,390 2/
TEL/TML preparations, based on lead compounds	3,180	3,180	113	NA	2,120 2/
Exports (gross weight): Scrap	99,200	99,200	10,500	NA	109,000 2/
Platt's Metals Week North American producer price (cents per pound)	45.27	45.27	43.64	43.65	43.72

e/ Estimated. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits, except prices; may not add to totals shown.

2/ Includes data for January - November only; December data were not available at time of publication.

3/ Stocks at end of year.

TABLE 2
MONTHLY AVERAGE LEAD PRICES

	North American producer price	LME		Sterling exchange rate
	cents/lb	$/metric ton	£/metric ton	dollars/£
1998:				
December	43.74	500.82	299.75	1.670796
Year	45.27	528.22	318.86	1.657086
1999:				
September	43.73	506.91	312.00	1.624686
October	43.70	496.75	299.76	1.657170
November	43.64	477.94	294.94	1.620480
December	43.65	478.74	296.78	1.613130
January - December	43.72	502.25	310.49	1.617887

Source: Platt's Metals Week.

TABLE 3
CONSUMPTION OF PURCHASED LEAD-BASE SCRAP IN DECEMBER 1999 1/

(Metric tons, gross weight)

Item	Stocks November 30, 1999	Net receipts	Consumption	Stocks December 31, 1999
Battery-lead	20,700	92,900	93,100	20,500
Soft lead	W	W	W	W
Drosses and residues	3,200	2,850	2,980	3,070
Other 2/	1,590	1,730	1,640	1,680
Total	25,400	97,500	97,700	25,200
Percent change from preceding month	XX	-10.0	-10.3	-0.9

W Withheld to avoid disclosing company proprietary data; included with "Other." XX Not applicable.
1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Includes solder, common babbitt, antimonial lead, cable covering, type metals, and other lead-base scrap not elsewhere classified.

TABLE 4
LEAD, TIN, AND ANTIMONY RECOVERED FROM LEAD-BASE SCRAP IN DECEMBER 1999 1/

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	52,200	--	--
Remelt lead	W	W	W
Antimonial lead	38,200	W	W
Other 2/	W	W	--
Total lead-base	91,000	103	411

W Withheld to avoid disclosing company proprietary data; included in "Total."
1/ Data are rounded to three significant digits.
2/ Includes cable lead, lead-base babbitt, solder, type metals, and other products.

TABLE 5
CONSUMPTION OF LEAD IN THE UNITED STATES 1/

(Metric tons, lead content)

Uses	1998 Year total	1998 January - December 2/	1999 November	1999 December	1999 January - December
Metal products:					
Ammunition, shot and bullets	52,800	37,200 r/	3,000 r/	2,600	40,800
Brass and bronze, billet and ingots	3,460	3,620 r/	305	301	3,790
Cable covering, power and communication and calking lead, building construction	5,980	5,080	191	394	2,790
Casting metals	32,600	5,340 r/	377	378	4,660
Pipes, traps, and other extruded products	W	W	W	W	W
Sheet lead	18,700	17,100 r/	1,370	1,350	16,200
Solder	10,900	6,560 r/	814	711	9,460
Storage batteries, including oxides	1,430,000	1,350,000	122,000	115,000	1,430,000
Terne metal, type metal, and other metal products 3/	10,400	8,740 r/	291	972	4,040
Total metal products	1,560,000	1,440,000 r/	128,000	121,000	1,510,000
Other oxides	(4/)	(4/)	(4/)	(4/)	(4/)
Miscellaneous uses	69,000	69,200 r/	5,040	4,950	63,800
Total reported	1,630,000	1,510,000 r/	133,000	126,000	1,580,000
Undistributed consumption e/	--	46,600 r/	7,020 r/	6,650	83,000
Grand total	1,630,000	1,550,000	140,000	133,000	1,660,000

e/ Estimated. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Sheet lead."
1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Data does not include 1998 annual respondents.
3/ Includes lead consumed in foil, collapsible tubes, annealing, plating, galvanizing, and fishing weights.
4/ Withheld to avoid disclosing company proprietary data; included with "Miscellaneous uses."

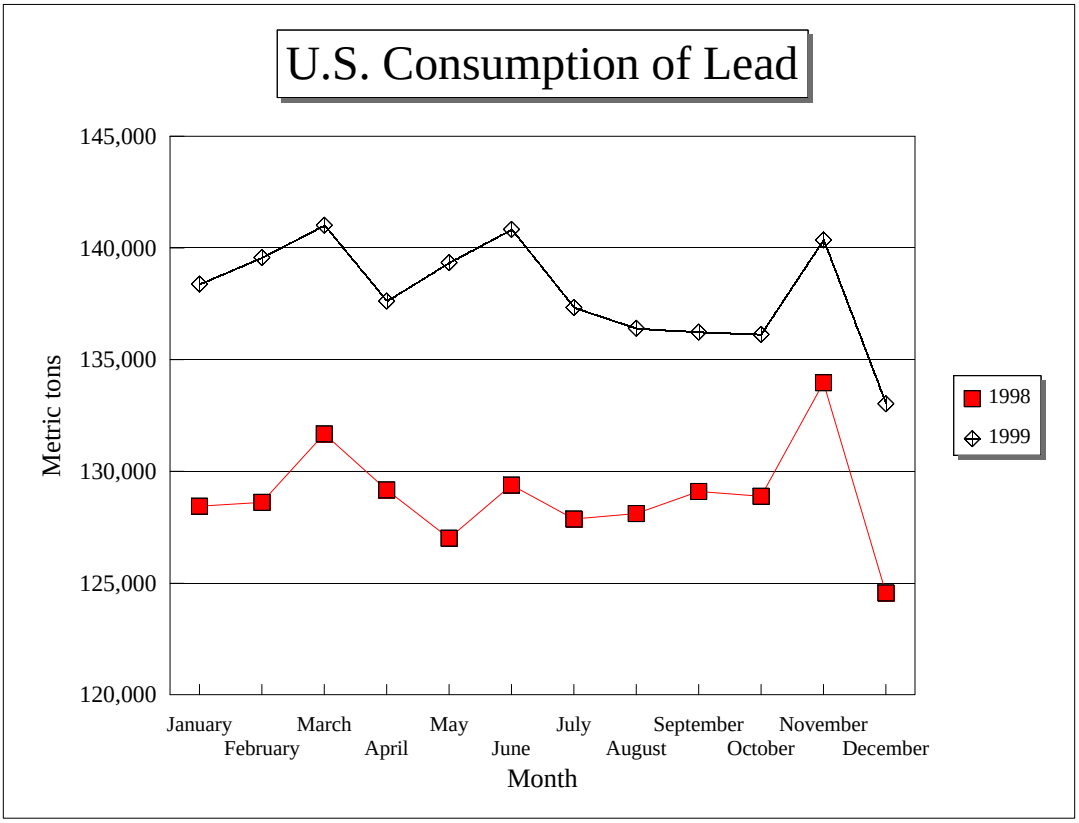

TABLE 6
CONSUMER AND SECONDARY SMELTER STOCKS, RECEIPTS, AND
CONSUMPTION OF LEAD IN DECEMBER 1999 1/

(Metric tons, lead content)

Type of material	Stocks November 30, 1999	Net receipts	Consumption	Stocks December 31, 1999
Soft lead	27,600 r/	75,500	73,700	29,400
Antimonial lead	23,100 r/	31,400	30,400	24,000
Lead alloys	W	23,100	22,000	W
Copper-base scrap	W	219	221	W
Total	66,100 r/	130,000	126,000	69,900

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Total."
1/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 7
U.S. EXPORTS OF LEAD, BY CLASS 1/

(Metric tons)

	1998		1999		
	Year total	November	October	November	January - November
Lead content:					
Ore and concentrates	72,400	2,080	14,700	2,520	91,200
Bullion	51,600	5,330	4,280	10,500	60,500
Materials excluding scrap	39,600	2,970	3,290	3,230	35,500
Ash and residues	9,030	1,480	7	101	1,390
TEL/TML preparations, based on lead compounds	3,180	208	127	113	2,120
Total	176,000	12,100	22,400	16,500	191,000
Gross weight: Scrap	99,200	8,590	12,900	10,500	109,000

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

TABLE 8
U.S. IMPORTS OF LEAD BY TYPE OF MATERIALS AND BY COUNTRY OF ORIGIN 1/

(Metric tons, lead content)

Country of origin	General imports					Imports for consumption				
	1998		1999			1998		1999		
	Year total	January - November	October	November	January - November	Year total	January - November	October	November	January - November
Ore, matte, etc.:										
Canada	32,000	32,000	--	--	1,220	6,540	6,540	--	--	(2/)
Mexico	--	--	108	--	1,900	--	--	--	--	1,580
Peru	35,800	24,000	1,040	925	7,760	18,500	7,000	--	--	193
Other	21,000	16,600 r/	--	12	19,400	7,670	7,650	--	--	7,660
Total	88,800	72,600	1,150	936	30,300	32,700	21,200	--	--	9,430
Base bullion:										
Dominican Republic	464	464	--	41	43	464	464	--	41	43
Pigs and bars:										
Australia	--	--	4,390	--	17,600	--	--	4,390	--	17,600
Canada	181,000	166,000	16,800	17,100	182,000	181,000	166,000	16,800	17,100	182,000
China	8,010	4,780	14,900	10,600	40,900	8,010	4,780	14,900	10,600	41,000
Germany	135	100	274	159	935	135	100	274	159	935
Mexico	63,600	59,800	2,130	834	25,900	63,600	59,800	2,130	834	25,900
Peru	11,400	7,400	--	1,530	4,180	11,400	7,400	--	1,530	4,180
Other	2,160	2,090 r/	2,090	110	5,870	2,160	2,090 r/	2,090	110	5,870
Total	267,000	240,000	40,600	30,300	277,000	267,000	240,000	40,600	30,300	277,000
Reclaimed scrap, including ash and residues	(2/)	(2/)	--	--	--	(2/)	(2/)	--	--	--
Grand total	356,000	314,000	41,700	31,300	308,000	300,000	262,000	40,600	30,300	287,000

1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Less than 1/2 unit.

Source: Bureau of the Census.